

FROEHLING & ROBERTSON, INC

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS ENGINEERS • LABORATORIES "OVER ONE HUNDRED YEARS OF SERVICE"

RECEIVED REGION 1

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October 18, 2006

United States Nuclear Regulatory Commission Region I 475 Allendale Road King of Prussia, PA 19406-1415 Br. 3

Attention:

Licensing Assistance Team

Division of Nuclear Materials Safety

Reference:

License Amendment (2nd submittal)

Froehling & Robertson, Inc. License No. 45-08890-02

03006580

Gentlemen:

We request an amendment to the above-noted Radioactive Material License as follows:

1. To change the address of our Dulles (Sterling) facility from Suite 2117 (2923 Quicksilver Drive, Sterling, VA 20166) to Suite 111 (same building).

- 2. To add a Nuclear Moisture/Density Gauge Model 3500 Xplorer, as manufactured by InstroTek, Inc. (5908 Triangle Drive, Raleigh, NC 27617) and registered under Device Registration Certificate Number NC-1241-D-101-S. The device contains the following radioisotope sources:
 - Cesium 137 source with maximum activity of 11mCi, Drawing number A102112, for measurement of material density.
 - Americium 241: Beryllium source with maximum activity of 44 mCi, drawing number A102451, for measurement of moisture content.

We apologize for our inordinately late submittal of requested information that resulted in the July 11, 2006 amendment request to be cancelled by your office. The former RSO for the Sterling facility did not forward the data as ordered, and I failed to personally insure that the information was sent as he indicated. The updated standard application for amendment s attached; and, if you have any questions or require additional information, please contact us at your convenience.

Respectfully submitted,

FROEHLING & ROBERTSON, INC.

William W. Briody

Corporate Radiation Safety Officer

Vice President

Copies:

Radiation Safety Committee

File

HEADQUARTERS: 3015 DUMBARTON ROAD

BOX 27524

RICHMOND, VA 23261-7524

TELEPHONE (804) 264-2701

FAX (804) 264-1202

www.FandR.com

BRANCHES:

ASHEVILLE, NC * BALTIMORE, MD * CHARLOTTE, NC * CHESAPEAKE, VA CROZET, VA * FAYETTEVILLE, NC * FREDERICKSBURG, VA * GREENVILLE, SC HICKORY, NC * RALEIGH, NC * ROANOKE, VA * STERLING, VA

CRES 139142)

139605 NMSS/RGNI MATERIALS-002 NRC FORM 313

U.S. NUCLEAR REGULATORY COMMISSION

(10-2005) 10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION.

SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO	THE NRC OFFICE SPECIFIED BELOW.	
APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:	IF YOU ARE LOCATED IN:	
DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001 ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:	ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO: MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION III 2443 WARRENVILLE ROAD, SUITE 210 LISLE, IL 60532-4352	
IF YOU ARE LOCATED IN:		
ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:	ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, V LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:	
LICENSING ASSISTANCE TEAM DIVISION OF NUCLEAR MATERIALS SAFETY U.S. NUCLEAR REGULATORY COMMISSION, REGION I 475 ALLENDALE ROAD KING OF PRUSSIA, PA 19406-1415	NUCLEAR MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION IV 611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TX 76011-4005	
PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR MATERIAL IN STATES SUBJECT TO U.S.NUCLEAR REGULATORY COMMISSION JURISDIC	etions.	
THIS IS AN APPLICATION FOR (Check appropriate item)	2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)	
A. NEW LICENSE	Froehling & Robertson, Inc.	
B. AMENDMENT TO LICENSE NUMBER 45-08890-02	3015 Dumbarton Road	
	Richmond, VA 23228	
C. RENEWAL OF LICENSE NUMBER		
3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED	4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION	
See Attachment A	William W. Briody	
	TELEPHONE NUMBER	
	(804) 264-2701	
SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMA	ATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.	
 RADIOACTIVE MATERIAL See Attachment B Element and mass number; b. chemical and/or physical form; and c. maiximum amount which will be possessed at any one time. 	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED. See Attachment A	
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE. Previously Submitted	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS. Previously Submitted	
9. FACILITIES AND EQUIPMENT. See Attachment A	12. RADIATION SAFETY PROGRAM. Previously Submitted	
11. WASTE MANAGEMENT. Previously Submitted	12. LICENSE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY NA AMOUNT S NA ENCLOSED S	
13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT INFORTER APPLICANT	AT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING	
	THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN , 35 , 36, 39, AND 40, AND THAT ALL INFORMATION CONTANED HEREIN IS TRUE AND	
WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A C ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN	RIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ITS JURIS DICTION.	
CERTIFYING OFFICER TYPED/PRINTED NAME AND TITLE William W. Briody, Vice President	SIGNATURE DATE	
	USE ONLY 1/806	
	CK NUMBER COMMENTS	
s		
APPROVED BY DATE		

ATTACHMENT A

APPLICATION FOR MATERIAL LICENSE AMENDMENT

ITEM 3.

ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED:

Licensed material may be used or stored at the licensee's facilities located at 3015 Dumbarton Road, Richmond, VA; Greenbriar Commerce Park, 833 Professional Place West, Chesapeake, VA; 1744 Seibel Drive, N.E., Roanoke, VA; 6181 Rockfish Gap Turnpike, Crozet, VA; 22923 Quicksilver Drive, Suite 111-113, Sterling, VA; 10909 Houser Drive, Fredericksburg, VA; 2250 Reservoir Street, Harrisonburg, VA; and may be used at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

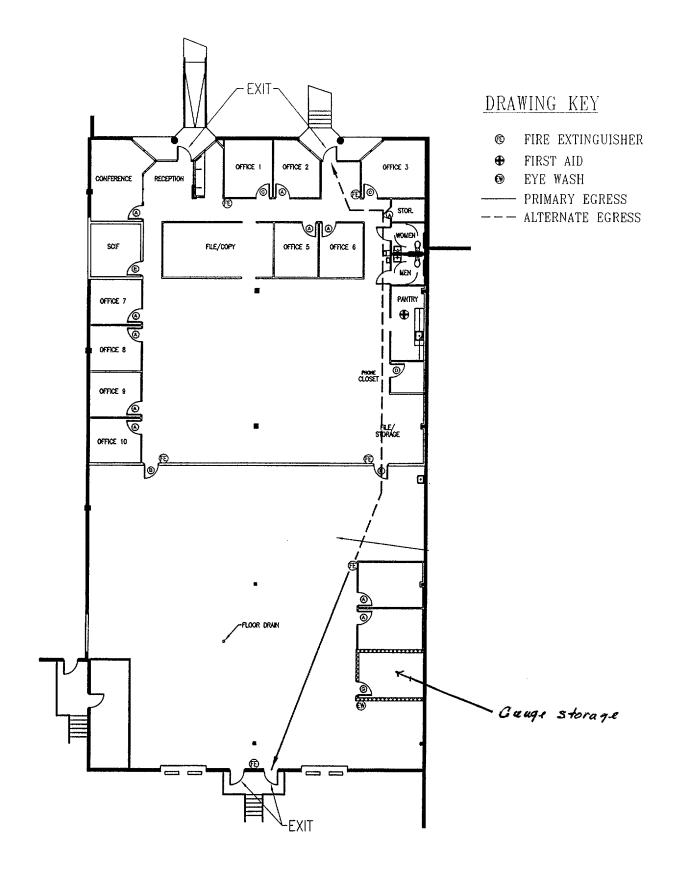
ITEM 9

FLOOR PLAN AND GAUGE STORAGE AREA

Suites 111 – 113 22923 Quicksilver Drive Sterling, Virginia 20166

Floor plan showing gauge storage area is attached. The room is within the confines of the lab area, and is constructed of concrete block with steel-reinforced grout fill, and has a frame ceiling. The door is steel and has two locks for added security.

The previous storage area located in Suite 117 has been surveyed with no evidence of residual radioactivity present.



ATTACHMENT B

APPLICATION FOR MATERIAL LICENSE AMENDMENT

Item 5, Radioactive Material

5.a.	Cesium 137*	Americium 241:Beryllium*
5.b.	Sealed source A-102112	Sealed source A-102451
5.c.	Maximum activity 11 mCi	Maximum activity 44 mCi

Authorized usage:

- * For use in InstroTek Model 3500 Xplorer Series gauges to measure the moisture/density of construction materials.
- **For use in InstroTek Model 3500 Xplorer Series gauges measuring hydrogen relative to moisture content of construction and/or building materials, and for measurement of asphalt density in the backscatter mode.

Maximum amount possessed at any one time:

Quantities of licensed materials will not exceed the applicable limits noted in Title 10 Code of Federal Regulations Part 30.35(d)

ATTACHMENT C

APPLICATION FOR MATERIAL LICENSE AMENDMENT

Copies of current wipe test results for gauges assigned to our Sterling, VA location are attached as requested.



3008 Cornwallis Rd., P.O. Box 12057 Research Triangle Park, NC 27709 Tel: (877) 876-9537 Fax: (919) 485-2250 License: NC 032-0182-1

SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE SUITE 111 STERLING, VA 20166

LEAK TES	Γ CERT	IFICAT	Е
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DEVICE:

Model: 3411

Serial No: 13215

SEALED SOURCES:

 Serial No.
 Measure Date
 Nuclide
 GBq
 mCi

 47-8505
 10/22/1985
 AM-241:BE
 1.48
 40

 50-1915
 01/16/1986
 CS-137
 0.296
 8

LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006 at 11:25:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	0	24
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

This certifies that the leak test results are:		
✓ Less than 185 Bq (0.005 uCi)	☐ Greater than 185 Bq (0.005 uCi	i)



3008 Cornwallis Rd., P.O. Box 12057 Research Triangle Park, NC 27709 Tel: (877) 876-9537 Fax: (919) 485-2250 License: NC 032-0182-1

SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE SUITE 111 STERLING, VA 20166

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DEVICE:

Model: 3440

Serial No: 16949

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SEALED SOURCES:

Serial No.	Measure Date	Nuclide	GBq	mCi
75-9798	05/21/1996	CS-137	0.296	8
47-12372	01/05/1989	AM-241:BE	1.48	40

LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006 at 11:21:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	0	32
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

This certifies that the leak test results are:	
☑ Less than 185 Bq (0.005 uCi)	☐ Greater than 185 Bq (0.005 uCi)



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SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE SUITE 111 STERLING, VA 20166

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DEVICE:

Model: 3440

Serial No: 17114

SEALED SOURCES:

 Serial No.
 Measure Date
 Nuclide
 GBq
 mCi

 47-12538
 01/26/1989
 AM-241:BE
 1.48
 40

 50-6312
 02/28/1989
 CS-137
 0.296
 8

LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006

at 11:24:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	2	29
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

This certifies that the leak test results are:	
✓ Less than 185 Bq (0.005 uCi)	☐ Greater than 185 Bq (0.005 uCi)



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SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE SUITE 111 STERLING, VA 20166

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DEVICE:

Model: 3430

Serial No: 23715

SEALED SOURCES:

Serial No.	Measure Date	Nuclide	GBq	mCi
47-19637	05/14/1994	AM-241:BE	1.48	40
75-5801	05/19/1994	CS-137	0.296	8

LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006

at 11:27:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	0	22
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

This certifies that the leak test results are:	
☑ Less than 185 Bq (0.005 uCi)	☐ Greater than 185 Bq (0.005 uCi)



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SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE SUITE 111 STERLING, VA 20166

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DEVICE:

Model: 3430

Serial No: 28887

SEALED SOURCES:

Serial No.	Measure Date	Nuclide	GBq	mCi
47-26011	02/17/1998	AM-241:BE	1.48	40
750-3176	12/08/1997	CS-137	0.296	8

LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006

at 11:23:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	0	27
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

This certifies that the leak test results are:	
✓ Less than 185 Bq (0.005 uCi)	☐ Greater than 185 Bq (0.005 uCi)



3008 Cornwallis Rd., P.O. Box 12057 Research Triangle Park, NC 27709 Tel: (877) 876-9537 Fax: (919) 485-2250 License: NC 032-0182-1

SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE SUITE 111 STERLING, VA 20166

LEAK	T	EST	CERT	ΊFΙ	CA	TE
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DEVICE:

Model: 3430

Serial No: 28893

SEALED SOURCES:

Serial No.	Measure Date	Nuclide	GBq	mCi
47-26017	02/17/1998	AM-241:BE	1.48	40
750-3182	12/08/1997	CS-137	0.296	8

LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006 at 11:28:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	0	20
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

Min. Detectable Activity (Bq)	4.1E-01	1.3E+00
This certifies that the leak test re	esults are:	
☑ Less than 185 Bq (0.005 uC	i) 🗆 Greater t	han 185 Bq (0.005 uCi)



3008 Cornwallis Rd., P.O. Box 12057 Research Triangle Park, NC 27709 Tel: (877) 876-9537 Fax: (919) 485-2250 License: NC 032-0182-1

SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE SUITE 111 STERLING, VA 20166

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DEVICE:

Model: 3430

Serial No: 34209

SEALED SOURCES:

 Serial No.
 Measure Date
 Nuclide
 GBq
 mCi

 47-29634
 06/25/2001
 AM-241:BE
 1.48
 40

 77-1300
 04/15/2003
 CS-137
 0.296
 8

LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006 at 11:22:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	2	30
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

This certifies that the leak test results are:	
☑ Less than 185 Bq (0.005 uCi)	☐ Greater than 185 Bq (0.005 uCi)



3008 Cornwallis Rd., P.O. Box 12057 Research Triangle Park, NC 27709 Tel: (877) 876-9537 Fax: (919) 485-2250 License: NC 032-0182-1

SCOTT SHELTON FROEHLING & ROBERTSON INC 22923 QUICKSILVER DRIVE **SUITE 111** STERLING, VA 20166

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DEVICE:

Model: 4640

Serial No: 760 / 1750

SEALED SOURCES:

Serial No. Measure Date

Nuclide

GBq

mCi

50-7057 07/24/1989 75 905/ 5/23/0

CS-137

0.296

8 (±10%)

75 905/ 5/23/06 LEAK TEST ANALYSIS:

Sample collected on:

09/18/2006

Sample analyzed on:

09/21/2006

at 11:29:00 AM

Analyzed by:

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.28E+01	2.02E+01
Background measurement (cpm)	0	27
Sample measurement (cpm)	0	16
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.1E-01	1.3E+00

This certifies that the leak test results are:		
☑ Less than 185 Bq (0.005 uCi)	☐ Greater than 185 Bq (0.005 uCi)	

This is to acknowledge the rece	eipt of your letter/application dated
includes an administrative revie	_, and to inform you that the initial processing which we has been performed.
There were no administrative technical reviewer. Please no omissions or require addition	45-099 90-02 e omissions. Your application was assigned to a note that the technical review may identify additional nal information.
Please provide to this office	within 30 days of your receipt of this card
Branch, who will contact you se Your action has been assigned	nis action, please refer to this control number.
NRC FORM 532 (RI) (6-96)	Sincerely, Licensing Assistance Team Leader

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